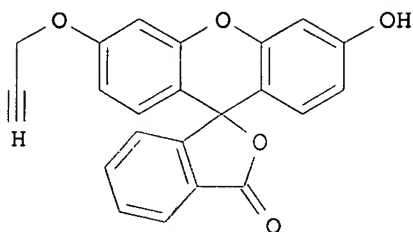


10/536,613

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STN-Store use Search
2/5/08

L4 ANSWER 1 OF 13 CAPLUS COPYRIGHT 2008 ACS on STN
ACCESSION NUMBER: 2007:625677 CAPLUS
DOCUMENT NUMBER: 147:253234
TITLE: An inexpensive fluorescent labeling protocol for bioactive natural products utilizing Cu(I)-catalyzed Huisgen reaction
AUTHOR(S): Zhang, Yan-Hong; Gao, Zheng-Xi; Zhong, Chun-Long; Zhou, Hai-Bin; Chen, Lei; Wu, Wen-Min; Peng, Xin-Jun; Yao, Zhu-Jun
CORPORATE SOURCE: State Key Laboratory of Bioorganic and Natural Products Chemistry, Shanghai Institute of Organic Chemistry, Chinese Academy of Sciences, Shanghai, 200032, Peop. Rep. China
SOURCE: Tetrahedron (2007), 63(29), 6813-6821
CODEN: TETRAB; ISSN: 0040-4020
PUBLISHER: Elsevier Ltd.
DOCUMENT TYPE: Journal
LANGUAGE: English
OTHER SOURCE(S): CASREACT 147:253234
GI



AB Labeling of bioactive small mols. with organic dyes for various applications in cell biol. has been emerging as an attractive research field. Using an easily prepared and inexpensive fluorescein derivative I and a Cu(I)-catalyzed Huisgen reaction, an efficient fluorescent labeling strategy is developed generally for bioactive natural products. Essentials of a successful labeling include the personalized introduction of an azido functionality to specific targets by a selective and efficient manner, and the strategic adjustment of reaction sequence to avoid possible side reactions under the click reaction conditions. Such a protocol has been successfully applied to the fluorescent labeling of four bioactive small mols. in different chemical categories in this study. Advantages of this labeling protocol include the use of inexpensive reagents, ease of operation, free-of-protections at the click' step, and suiting a wide range of bioactive mols. bearing the reactive functionalities.

IT 945761-25-1P

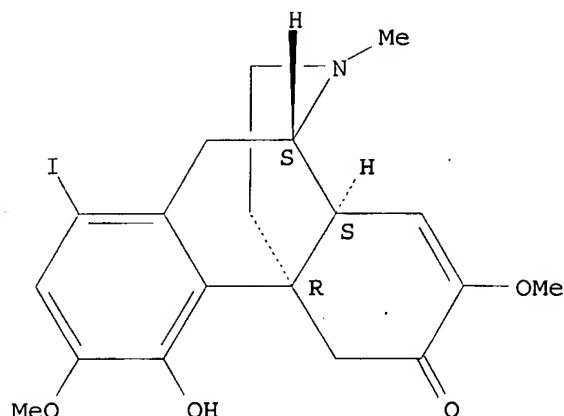
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)

(inexpensive fluorescent labeling protocol for bioactive natural products utilizing Cu(I)-catalyzed Huisgen reaction)

RN 945761-25-1 CAPLUS

CN Morphinan-6-one, 7,8-didehydro-4-hydroxy-1-iodo-3,7-dimethoxy-17-methyl-, (9 α ,13 α ,14 α)- (CA INDEX NAME)

Absolute stereochemistry.



REFERENCE COUNT: 42 THERE ARE 42 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L4 ANSWER 2 OF 13 CAPLUS COPYRIGHT 2008 ACS on STN

ACCESSION NUMBER: 2006:1310903 CAPLUS

DOCUMENT NUMBER: 146:100910

TITLE: Preparation of Sinomenine derivatives from Sinomenine and their application

INVENTOR(S): Wu, Feichi; Feng, Xiaozhang; Wu, Kemei; Cheng, Guifang; Huang, Yuming; Ye, Xianrong; Qiu, Ping; Zheng, Xingliang

PATENT ASSIGNEE(S): Hunan Zhengqing Pharmaceutical Group Co., Ltd., Peop. Rep. China

SOURCE: Faming Zhuanli Shenqing Gongkai Shuomingshu, 15pp. CODEN: CNXXEV

DOCUMENT TYPE: Patent

LANGUAGE: Chinese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
CN 1876634	A	20061213	CN 2006-10086423	20060619
CN 101092397	A	20071226	CN 2007-10111253	20070619
PRIORITY APPLN. INFO.:			CN 2006-10086423	A 20060619

AB The chemical structure of Sinomenine is modified on the A, B, C, and D rings linked with new substituents and prepared from Sinomenine via chemical synthesis. The Sinomenine derivs. have good antiinflammatory, analgesic and antiallergic effects, and can improve immunity.

IT 847941-31-5P 908802-46-0P

RL: PAC (Pharmacological activity); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)

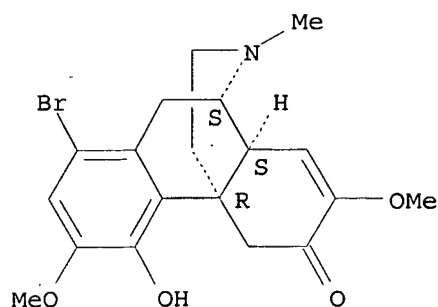
(preparation of Sinomenine derivs. from Sinomenine and their bioactivity)

RN 847941-31-5 CAPLUS

CN Morphinan-6-one, 1-bromo-7,8-didehydro-4-hydroxy-3,7-dimethoxy-17-methyl-, (9 α ,13 α ,14 α)- (CA INDEX NAME)

Absolute stereochemistry.

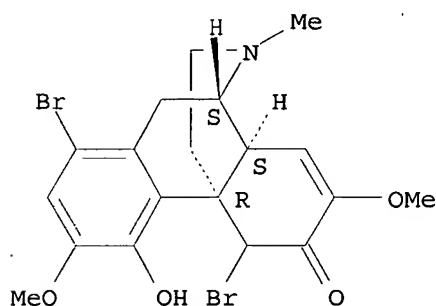
10/536,613



RN 908802-46-0 CAPLUS

CN Morphinan-6-one, 1,5-dibromo-7,8-didehydro-4-hydroxy-3,7-dimethoxy-17-methyl-, (6 β ,7 β ,8 β ,10 β)- (CA INDEX NAME)

Absolute stereochemistry.



L4 ANSWER 3 OF 13 CAPLUS COPYRIGHT 2008 ACS on STN

ACCESSION NUMBER: 2004:467867 CAPLUS

DOCUMENT NUMBER: 141:23767

TITLE: Preparation of sinomenine compounds for the treatment of cognitive disorders

INVENTOR(S): Qin, Guo-Wei; Tang, Xi-Can; Wang, Rui; Zhou, Tian-Xi; Lestage, Pierre; Caignard, Daniel-Henri; Renard, Pierre

PATENT ASSIGNEE(S): Shanghai Institute of Materia Medica, Chinese Academy of Sciences, Peop. Rep. China; Les Laboratoires Servier

SOURCE: PCT Int. Appl., 35 pp.

CODEN: PIXXD2

DOCUMENT TYPE: Patent

LANGUAGE: English

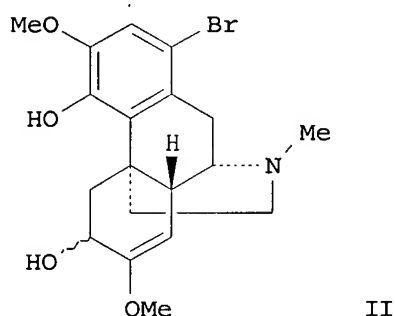
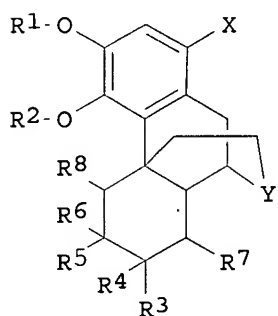
FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2004048340	A1	20040610	WO 2003-EP14841	20031126
W:	AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW			
RW:	BW, GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE,			

ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK,
 TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG

CN 1504469	A	20040616	CN 2002-153819	20021128
CA 2507067	A1	20040610	CA 2003-2507067	20031126
AU 2003290119	A1	20040618	AU 2003-290119	20031126
EP 1565444	A1	20050824	EP 2003-782481	20031126
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, SK				
BR 2003016609	A	20051011	BR 2003-16609	20031126
CN 1720232	A	20060111	CN 2003-80104606	20031126
JP 2006509755	T	20060323	JP 2004-554526	20031126
ZA 2005004055	A	20060830	ZA 2005-4055	20050519
US 2006009480	A1	20060112	US 2005-536613	20050525
MX 2005PA05687	A	20050816	MX 2005-PA5687	20050527
NO 2005003139	A	20050627	NO 2005-3139	20050627
PRIORITY APPLN. INFO.:			CN 2002-153819	A 20021128
OTHER SOURCE(S):			WO 2003-EP14841	W 20031126
GI				



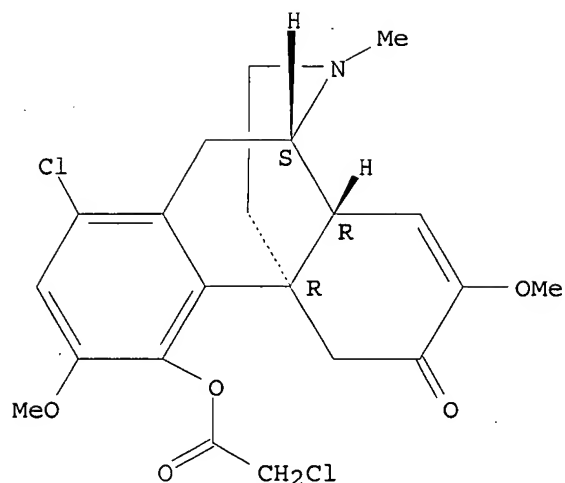
AB Sinomenine and compds. thereof of formula I [Y = (substituted) N, (substituted) N-oxide, disubstituted N+ halide; X = halo; R1 = alkyl; R2 = H, acyl; R3 = OH, alkoxy; R4, R7 = H; R4R7 = bond; R3R4 = oxo, (substituted) N; R5, R8 = H, R5R8 = bond; R6 = OH, acyl, etc.] are prepared. The compds. are useful in the treatment of cognitive disorders. Pharmaceutical compns. containing I are described. Thus, II was prepared from sinomenine, and showed a difference of -36 s. at a dose of 20 mg/kg in social recognition in the Wistar rat.

IT 700361-94-0P 700362-01-2P 700362-03-4P
 RL: PAC (Pharmacological activity); RCT (Reactant); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); RACT (Reactant or reagent); USES (Uses)
 (preparation of sinomenine compds. for the treatment of cognitive disorders)

RN 700361-94-0 CAPLUS

CN Morphinan-6-one, 1-chloro-7,8-didehydro-4-hydroxy-3,7-dimethoxy-17-methyl-, (9 α ,13 α)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



REFERENCE COUNT: 4 THERE ARE 4 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L4 ANSWER 4 OF 13 CAPLUS COPYRIGHT 2008 ACS on STN

ACCESSION NUMBER: 1978:609063 CAPLUS

DOCUMENT NUMBER: 89:209063

ORIGINAL REFERENCE NO.: 89:32355a,32358a

TITLE: Synthesis and antinociceptive activity of 7-methoxycodeine

AUTHOR(S): Iijima, Ikuo; Minamikawa, Junichi; Rice, Kenner C.; Jacobson, Arthur E.

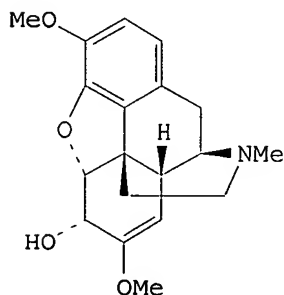
CORPORATE SOURCE: Lab. Chem., Natl. Inst. Arthritis, Metab. Dig. Dis., Bethesda, MD, USA

SOURCE: Journal of Medicinal Chemistry (1978), 21(12), 1320-2
CODEN: JMCMAR; ISSN: 0022-2623

DOCUMENT TYPE: Journal

LANGUAGE: English

GI



I

AB The title compound (I) [68160-82-7] was synthesized from (-)-1-bromosinomeninone [68170-84-3] by enol methylation, closure of the oxide bridge by treatment with Br₂, and LiAlH₄ reduction, and I was tested for antinociceptive activity. The introduction of the 7-MeO group into the C ring of codeine did not decrease its oral activity, but I was unstable in acidic media. Apparently, the oral activity of I was not due to its conversion to the acid-stable (-)-sinomeninone [2230-60-6], since the latter was orally inactive.

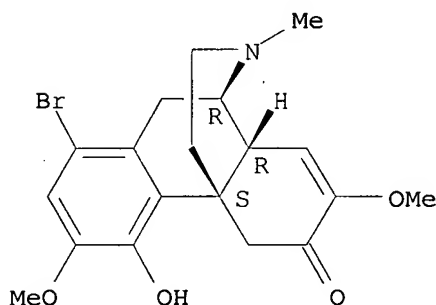
IT 68160-79-2P 68160-80-5P

RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
(preparation and analgesic activity of)

RN 68160-79-2 CAPLUS

CN Morphinan-6-one, 1-bromo-7,8-didehydro-4-hydroxy-3,7-dimethoxy-17-methyl-
(9CI) (CA INDEX NAME)

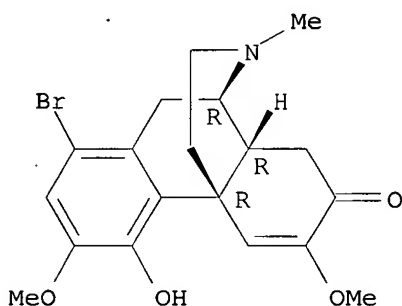
Absolute stereochemistry.



RN 68160-80-5 CAPLUS

CN Morphinan-7-one, 1-bromo-5,6-didehydro-4-hydroxy-3,6-dimethoxy-17-methyl-
(9CI) (CA INDEX NAME)

Absolute stereochemistry.



L4 ANSWER 5 OF 13 CAPLUS COPYRIGHT 2008 ACS on STN

ACCESSION NUMBER: 1934:6501 CAPLUS

DOCUMENT NUMBER: 28:6501

ORIGINAL REFERENCE NO.: 28:832b-d

TITLE: Physiological action of (-) and (+) derivatives of morphine alkaloids

AUTHOR(S): Goto, Kakuji

SOURCE: Proceedings of the Imperial Academy (Tokyo) (1933), 9, 390-3

CODEN: PIATA8; ISSN: 0369-9846

DOCUMENT TYPE: Journal

LANGUAGE: Unavailable

AB The physiol. actions of 6 pairs of morphine derivs. prepared from sinomenine (I) were studied. The (-) and (+) forms of dihydrocodeinone (II), dihydrotheobainone (III), β -tetrahydrodesoxycodine (V), dihydrothebainol (V), 1-bromosinomenine (VI), and α -dihydrosinomenine (VII) were tested for toxicity, tail reaction, analgesic action, convulsant action, and influence on respiration and blood pressure. The d-derivs. of I are chiefly convulsive poisons and show no tail response, analgesic action or respiratory depression. In the

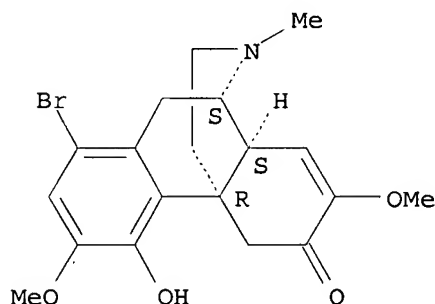
1-derivs. II, III and IV display all these properties, but V has no convulsant action, VI shows only weak analgesic effects and VII provokes no tail reaction although the other characteristic reactions are pos. Conclusion: These properties of morphine derivs. depend on configuration as well as constitution.

IT 847941-31-5, Sinomenine, 1-bromo-, 1-
(physiol. action of)

RN 847941-31-5 CAPLUS

CN Morphinan-6-one, 1-bromo-7,8-didehydro-4-hydroxy-3,7-dimethoxy-17-methyl-,
(9 α ,13 α ,14 α)- (CA INDEX NAME)

Absolute stereochemistry.



L4 ANSWER 6 OF 13 CAPLUS COPYRIGHT 2008 ACS on STN

ACCESSION NUMBER: 1932:54104 CAPLUS

DOCUMENT NUMBER: 26:54104

ORIGINAL REFERENCE NO.: 26:5568a-c

TITLE: Sinomenine. XXXIII. Acetolysis of sinomeninone and
1-bromosinomeninone

AUTHOR(S): Goto, K.; Shishido, H.; Takubo, K.

SOURCE: Ann. (1932), 497, 289-96

DOCUMENT TYPE: Journal

LANGUAGE: Unavailable

AB cf. C. A. 26, 5306. Sinomeninone-MeOH (previously described as sinomenine hydrate) is converted by boiling with Ac₂O and NaOAc into 20% of 4,6-diacetoxy-3-methoxyphenanthrene (I) and 10% of triacetylisothebenine (II), m. 167° (sinters at 164°). 1-Bromosinomeninone is similarly converted into 25% of 1-bromo-4,6-diacetoxy-3-methoxyphenanthrene (reduced catalytically to I) and 20% of 1-bromotriacetylisothebenine' (III), m. 191° (converted by 2 N MeOH-NaOH at 80° into 7% of a compound C₂₀H₂₀O₄NBr, m. 253°). Reduction (H, Pd-BaSO₄, PdCl₂, AcOH-NaOAc) of II or III gives triacetyl-9,10-dihydroisothebenine (IV), m. 182°; the triacetylisothebenine of Schopf, Pfeifer and Hirsch (C. A. 26, 1934) is IV. Thebenine and its tri-Ac derivative are similarly reduced to 9,10-dihydrothebenine (HCl salt, m. 261°) and triacetyl-9,10-dihydrothebenine, m. 120° (decomposition), resp. 1,5-Dibromosinomeninone-HBr, m. 197° (decomposition), undergoes conversion (in EtOH) into 1-bromosinomenine-HBr.

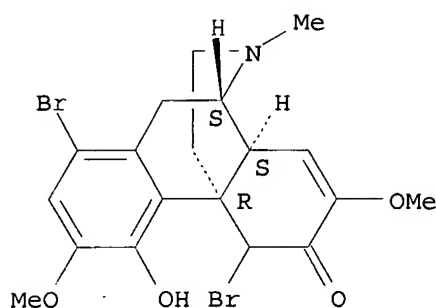
IT 908574-51-6P, Sinomenine, 1,5-dibromo-, -HBr

RL: PREP (Preparation)
(preparation of)

RN 908574-51-6 CAPLUS

CN Sinomenine, 1,5-dibromo-, -HBr (3CI) (CA INDEX NAME)

Absolute stereochemistry.



● HBr

L4 ANSWER 7 OF 13 CAPLUS COPYRIGHT 2008 ACS on STN

ACCESSION NUMBER: 1931:8717 CAPLUS

DOCUMENT NUMBER: 25:8717

ORIGINAL REFERENCE NO.: 25:959b-g

TITLE: Partial syntheses in the morphine series. I

AUTHOR(S): Schopf, Clemens; Pfeifer, Theo

SOURCE: Ann. (1930), 483, 157-69

DOCUMENT TYPE: Journal

LANGUAGE: Unavailable

GI For diagram(s), see printed CA Issue.

AB Dihydrothebainone (I) (35 g.) in 300 cc. AcOH treated with 16 g. Br in 150 cc. AcOH at 15° and the residue in 200 cc. H₂O treated with 35 g. KI, gives 43.5 g. of the HI salt, m. 215° (decomposition), of 1-bromodihydrothebainone (II), m. 167°, crystals with 0.5 mol. AcOEt; HBr salt, m. 210-5° (decomposition); oxime, m. 178-80°. II also results by the reduction of 1-bromodihydrocodeinone (III), m. 205-7°, with Zn and NH₄Cl in EtOH. III is formed in 75-80% yield by treating I with 2 mols. Br and treating the residue with 7 N KOH; from II.HBr in MeOH with Br and then treating the residue with KOH (80% yield); and by bromination of dihydrocodeinone (IV) in AcOH. Reduction of III in AcOH-AcONa with Pd and H gives quant. IV. While the formation of the phenol group from the O bridge has been accomplished before, this is the first time the reverse reaction has been carried out. In the same way there was prepared 1-bromodihydrohydroxythebainone, m. 190-1°; with Br and alkali this gives 75-80% of 1-bromodihydrohydrocodeinone, m. 181-4°; catalytic reduction gives dihydrohydroxycodeinone. 1-Bromosinomenine, m. 188-9° (Goto and Nambo, C. A. 24, 4042), with Br and alkali, give 75% of 1-bromosinomenine, m. 213° (this is the isobromosinomenine of G. and N.).

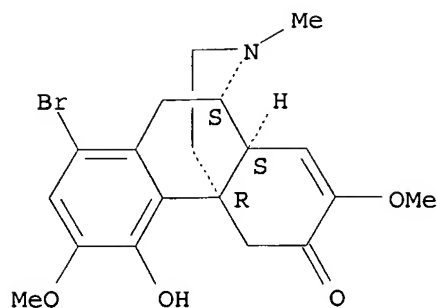
IT 847941-31-5P, Sinomenine, 1-bromo-

RL: PREP (Preparation)
(preparation of)

RN 847941-31-5 CAPLUS

CN Morphinan-6-one, 1-bromo-7,8-didehydro-4-hydroxy-3,7-dimethoxy-17-methyl-, (9 α ,13 α ,14 α)- (CA INDEX NAME)

Absolute stereochemistry.



L4 ANSWER 8 OF 13 CAPLUS COPYRIGHT 2008 ACS on STN

ACCESSION NUMBER: 1930:37406 CAPLUS

DOCUMENT NUMBER: 24:37406

ORIGINAL REFERENCE NO.: 24:4042b-e

TITLE: Sinomenine and disinomenine. XVI. Isobromosinomenine (or bromosinomenine)

AUTHOR(S): Goto, Kakuji; Nambo, Taro

SOURCE: Bulletin of the Chemical Society of Japan (1930), 5, 165-9

CODEN: BCSJA8; ISSN: 0009-2673

DOCUMENT TYPE: Journal

LANGUAGE: Unavailable

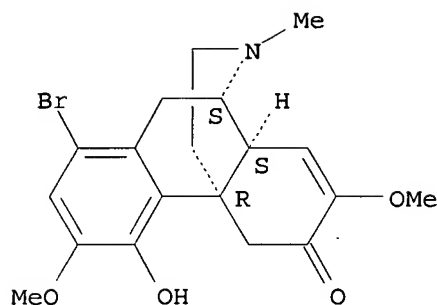
AB cf. C. A. 24, 3512. Isobromosinomenine (I) is always produced when sinomenine-HCl (II) is brominated in HOAc or C₃H₅CO₂H. I is probably an oxidized product and the above name would be inappropriate. G. and N. wish instead to call I bromosinomenine and to substitute bromosinomenine ketone (III) for isobromosinomeninone. II in HOAc with 1 mol. of Br gave 80% of bromosinomenine (IV), m. 153°, [α]_D²⁰ -8.87° (CHCl₃); (HCl salt (+ 3H₂O), m. 116°; HBr salt, m. 232° (from MeOH); oxime, softens 168°, decomp. 211°; methiodide, m. 80°), together with 2-20% of I. With 2 mols. of Br the above reaction gave 40% of I, m. 217° (from alc.), [α]_D²⁰ -83.03° (CHCl₃); HCl salt, m. 231° (decomposition); HBr salt, m. 229°; oxime, m. 162°; oxime HCl salt, softens 236°, m. 280°; methiodide, m. 211-2°. I heated in 2 N HCl at 100° gave III, m. 198° (from CHCl₃), [α]_D²⁰ 119.89°; dioxime, m. 173.5° (decomposition); dioxime HCl salt, softens 208°, m. 195° (decomposition). When the bromination mixture containing IV was allowed to stand several weeks, IV was converted into sinomeninone, m. 227°; oxime, m. 189°; methiodide, m. 246°. From such reactions were isolated varying amts. of sinomenine hydrate, m. 157° (from alc.); [α]_D²⁰ 41.85; oxime, m. 231°; methiodide, m. 192-5° (decomposition) (the previously published value, 264°, was an error).

IT 847941-31-5, Sinomenine, bromo- (and derivs.)

RN 847941-31-5 CAPLUS

CN Morphinan-6-one, 1-bromo-7,8-didehydro-4-hydroxy-3,7-dimethoxy-17-methyl-, (9α,13α,14α)- (CA INDEX NAME)

Absolute stereochemistry.



L4 ANSWER 9 OF 13 CAPLUS COPYRIGHT 2008 ACS on STN

ACCESSION NUMBER: 1930:32896 CAPLUS

DOCUMENT NUMBER: 24:32896

ORIGINAL REFERENCE NO.: 24:3512g-i,3513a

TITLE: Sinomenine and disinomenine. XV. Reduction of bromosinomenine with nascent hydrogen

AUTHOR(S): Goto, Kakuji; Inaba, Reikichi

SOURCE: Nippon Kagaku Kaishi (1921-47) (1930), 2, 53-8

CODEN: NIKWAB; ISSN: 0369-4208

DOCUMENT TYPE: Journal

LANGUAGE: Unavailable

AB cf. C. A. 24, 1385. The reduction of bromosinomenine (I) was studied by various methods and the results were compared with the previously published results on the reduction of sinomenine. The 2 compds. reacted in the same way with different reducing agents. I was reduced in 2% NaOH with Na-Hg. After 72 hrs. the H₂O solution was saturated with CO₂, the precipitate

dissolved in CHCl₃, evaporated and acetone added, precipitating 34.3% of granular

1,1'-dibromo-bis-8,8'-desmethoxydihydrosinomenine (II), m. 227°, darkens 274° (from acetone), [α]_D13 19.02° (alc.); oxime, m. 237° (decomposition); methiodide, m. 253-5°. II was also prepared by the bromination of bis-8,8'-desmethoxydihydrosinomenine. Bromodihydrosinomenine similarly reduced gave 35% of 1-bromodesmethoxysinomenine (III), m. 119° (from acetone), [α]_D13 57.57° (alc.); oxime, m. 263°; methiodide, m. 127° (decomposition), sinters 119°. III was also prepared by the bromination of desmethoxydihydrosinomenine. I.HBr was reduced with Zn-Hg and HCl on the steam bath, with periodic addition of HCl (fuming), yielding 30% of bromodesmethoxydesoxodihydrosinomenine (IV), m. 127° (from acetone), [α]_D12 40.44° (alc.); methiodide, m. 253-5°.

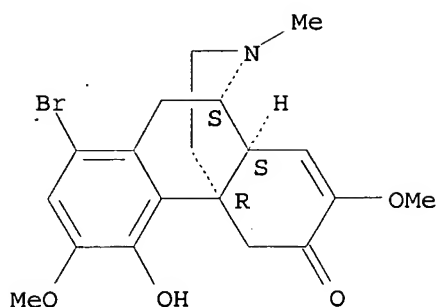
IV was also prepared by the bromination of desmethoxydesoxodihydrosinomenine. β-Tetrahydrodesoxycodine, m. 149°, was brominated in HOAc, yielding 50% of the Br derivative (C₁₈H₂₄BrNO₂), m. 127° [α]_D13 -39.52° (alc.). This and IV were mixed in alc. and evaporated, yielding a solid, m. 122° (decomposition), sinters 119°, optically active in alc. I reduced with ZnHCl gave bromodihydrosinomenine, m. 236°.

IT 847941-31-5, Sinomenine, bromo- (reduction of)

RN 847941-31-5 CAPLUS

CN Morphinan-6-one, 1-bromo-7,8-didehydro-4-hydroxy-3,7-dimethoxy-17-methyl-, (9α,13α,14α) - (CA INDEX NAME)

Absolute stereochemistry.



L4 ANSWER 10 OF 13 CAPLUS COPYRIGHT 2008 ACS on STN

ACCESSION NUMBER: 1930:32895 CAPLUS

DOCUMENT NUMBER: 24:32895

ORIGINAL REFERENCE NO.: 24:3512g-i,3513a

TITLE: Sinomenine and disinomenine. XV. Reduction of bromosinomenine with nascent hydrogen

AUTHOR(S): Goto, Kakuji; Inaba, Reikichi

SOURCE: Bulletin of the Chemical Society of Japan (1930), 5, 93-8

CODEN: BCSJA8; ISSN: 0009-2673

DOCUMENT TYPE: Journal

LANGUAGE: Unavailable

AB cf. C. A. 24, 1385. The reduction of bromosinomenine (I) was studied by various methods and the results were compared with the previously published results on the reduction of sinomenine. The 2 compds. reacted in the same way with different reducing agents. I was reduced in 2% NaOH with Na-Hg. After 72 hrs. the H₂O solution was saturated with CO₂, the precipitate

dissolved in CHCl₃, evaporated and acetone added, precipitating 34.3% of granular

1,1'-dibromo-bis-8,8'-desmethoxydihydrosinomenine (II), m. 227°,

darkens 274° (from acetone), [α]_D13 19.02° (alc.);

oxime, m. 237° (decomposition); methiodide, m. 253-5°. II was

also prepared by the bromination of bis-8,8'-desmethoxydihydrosinomenine.

Bromodihydrosinomenine similarly reduced gave 35% of 1-

bromodesmethoxysinomenine (III), m. 119° (from acetone),

[α]_D13 57.57° (alc.); oxime, m. 263°; methiodide, m.

127° (decomposition), sinters 119°. III was also prepared by the

bromination of desmethoxydihydrosinomenine. I.HBr was reduced with Zn-Hg

and HCl on the steam bath, with periodic addition of HCl (fuming), yielding

30% of bromodesmethoxydesoxodihydrosinomenine (IV), m. 127° (from

acetone), [α]_D12 40.44° (alc.); methiodide, m. 253-5°.

IV was also prepared by the bromination of desmethoxydesoxodihydrosinomenine

. β-Tetrahydrodesoxycodine, m. 149°, was brominated in HOAc,

yielding 50% of the Br derivative (C₁₈H₂₄BrNO₂), m. 127° [α]_D13

-39.52° (alc.). This and IV were mixed in alc. and evaporated,

yielding a solid, m. 122° (decomposition), sinters 119°,

optically active in alc. I reduced with ZnHCl gave

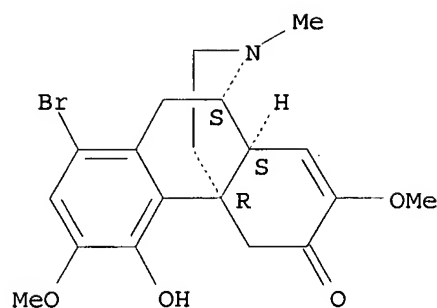
bromodihydrosinomenine, m. 236°.

IT 847941-31-5, Sinomenine, bromo-
(reduction of)

RN 847941-31-5 CAPLUS

CN Morphinan-6-one, 1-bromo-7,8-didehydro-4-hydroxy-3,7-dimethoxy-17-methyl-,
(9α,13α,14α)- (CA INDEX NAME)

Absolute stereochemistry.



L4 ANSWER 11 OF 13 CAPLUS COPYRIGHT 2008 ACS on STN

ACCESSION NUMBER: 1930:5312 CAPLUS

DOCUMENT NUMBER: 24:5312

ORIGINAL REFERENCE NO.: 24:620i,621a

TITLE: Sinomenine and disinomenine. XIII. The reduction of bromosinomenine

AUTHOR(S): Goto, Kakuji; Nakamura, Teruko

SOURCE: Bulletin of the Chemical Society of Japan (1929), 4, 195-8

CODEN: BCSJA8; ISSN: 0009-2673

DOCUMENT TYPE: Journal

LANGUAGE: Unavailable

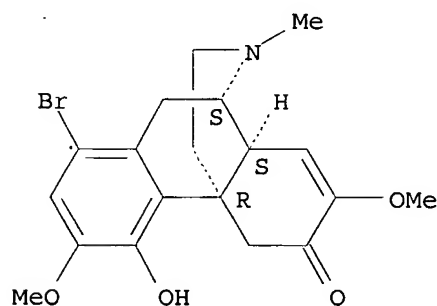
AB The bromination of sinomenine in AcOH leads to the formation of 2 isomeric bromosinomenines. Expts. on the oxidation, reduction and diazo reactions with these 2 compds. leads to the opinion that the Br atom in both the products is in the (1) position opposite the free OH group in the phenanthrene nucleus and it is assumed that the 3rd benzene ring of the phenanthrene nucleus has undergone some change in the case of isobromosinomenine.

IT 847941-31-5, Sinomenine, bromo-(reduction of)

RN 847941-31-5 CAPLUS

CN Morphinan-6-one, 1-bromo-7,8-didehydro-4-hydroxy-3,7-dimethoxy-17-methyl-, (9 α ,13 α ,14 α)- (CA INDEX NAME)

Absolute stereochemistry.



L4 ANSWER 12 OF 13 CAPLUS COPYRIGHT 2008 ACS on STN

ACCESSION NUMBER: 1929:31293 CAPLUS

DOCUMENT NUMBER: 23:31293

ORIGINAL REFERENCE NO.: 23:3709d-i,3710a-e

TITLE: Constitution of sinomenine

AUTHOR(S): Kondo, Heizaburo; Ochiai, Eiji

SOURCE: Ann. (1929), 470, 224-54

DOCUMENT TYPE: Journal

LANGUAGE: Unavailable

GI For diagram(s), see printed CA Issue.

AB cf. J. Pharm. Society Japan Number 497, 503, 538; C. A. 22, 964-5, 4531. Sinomenine (I) is the principal alkaloid of the root of *Sinomenium acutum*, Rehd. et Wils., found in South Japan. I, liberated from the HCl salt with Na₂CO₃ and crystallized from C₆H₆, m. 161°, then solidifies and again m. 182°; the higher melting form is also obtained by adding NH₄OH to the aqueous solution of the HCl salt; on standing it reverts to the lower melting form; analysis and mol. weight indicate the formula C₁₉H₂₃NO₄; [α]_{26D} -70.76° (0.2120 g. in 10 cc. EtOH); HCl salt, decomp. 231°, [α]_{17D} -6.89° (4.1812 g. in 100 cc. H₂O), crystals with 2 H₂O; chloroaurate, amorphous; methiodide, m. 251°; Bz derivative, by heating I and Bz₂O 4 hrs. at 100°, m. 225°, [α]_{26D} -3.37° (0.3075 g. in 10 cc. EtOH) (chloroaurate); Me derivative, from I and CH₂N₂, m. 175° (HCl salt, m. 252°; semicarbazone, decomp. 250-2°); oxime, m. 254° (decomposition); semicarbazone, decomp. 264°. Catalytic reduction of I according to Skita gives the dihydro derivative (II), m. 199°, [α]_{16D} 170.5° (0.1756 g. in 15 cc. EtOH); semicarbazone, decomp. 207°. I.HCl and Br in AcOH give 2 Br derivs., m. 138° and 205°. ClCO₂Et and KOH give the compound C₂₅H₃₂N₂O₂Cl, m. 166-83° (decomposition), [α]_{17D} -108.4° (0.2265 g. in 12 cc. CHCl₃). Heating I and Bz₂O 6 hrs. at 150-60° gives the compound C₂₃H₂₂O₆, m. 206°, gives a purple-red color with concentrated H₂SO₄ and a red-brown color with hot NaOH. Zn distillation of I gives phenanthrene and Me₃N. Reduction of I with amalgamated Zn and HCl gives desoxytetrahydrosinomenine (III), m. 150-1°, crystallizing with 0.5 H₂O, [α]_{21D} 48.20° (0.1774 g. in 15 cc. EtOH); III salt, m. 250-1°; methiodide, m. 265°; does not react with Co reagents; III is the optical antipode of dihydrothebaine (Speyer and Slebert, C. A. 15, 3975); a mixture of the 2, crystallized from Me₂CO, is optically inactive. III.MeI and KOH, heated until a brown oil seps., gives des-N-methyldesoxytetrahydrosinomenine (IV), m. 140°, [α]_{21D} -41.59° (0.1635 g. in 20 cc. MeOH); methiodide, hygroscopic; transformed into the chloride and heated with KOH, there results the compound V, pale yellow, m. 93°, [α]_{17D} -181.6° (0.1564 g. in 20 cc. EtOH) and Me₂N V is stable toward cold KMnO₄ but on boiling a compound, m. 115°, is obtained; V is not changed by boiling with Ac₂O for 15 mins. Reduction of II with Na-Hg gives the compound C₁₈H₂₅NO₃, m. 92-105° (decomposition), [α]_{20D} 32.02 (0.1374 g. in 20 cc. EtOH); methiodide, m. 268-72°, [α]_{29D} 23.9° (0.1548 g. in 20 cc. MeOH). This is des-methoxydihydrosinomeninol and is the optical antipode of the reduction product of dihydrothebaine (dihydrothebainol, m. 144°, [α]_{25D} -46.2°; methiodide, m. 278° (decomposition), [α]_{29D} -24.25°), since a mixture of the 2 is optically inactive. Reduction of I with NaHg gives the amorphous base, C₁₄H₂₅NO₂, m. 180°, [α]_{27D} -11.24° (0.1424 g. in 20 cc. EtOH). Heating 9 g. Na homoveratrumate and 9 g. o-nitroveratrumic aldehyde in 50 cc. Ac₂O 50 hrs. at 110-20° gives α-3,4-dimethoxyphenyl-2-nitro-3',4'-dimethoxycinnamic acid, yellow, m. 191-2°; reduction with FeSO₄ and NH₄OH gives the 2-amino derivative, yellow, m. 146°; the diazo compound gives a mixture of 3,4,5,6-tetramethoxyphenanthrene-9-carboxylic acid (VI), m. 234°, and the 3,4,6,7-tetra-MeO derivative, m. 210°. The latter, heated with AcOH 20 hrs. at 250-60°, gives 3,4,6,7-tetramethoxyphenanthrene, m. 124-5°, identical with dimethylsinomenol (cf. Goto, J. Agr. Chemical Society Japan 2, Number 17). α-3',4'-Dimethoxy-6'-bromo-2-nitro-3,4-dimethoxycinnamic acid, yellow, m. 216°; 2-NH₂ derivative, yellow, m. 187°; 8-bromo-3,4,5,6-tetramethoxyphenanthrene-9-carboxylic acid, m. 187-8° (decomposition); reduction gives VI. Catalytic reduction of thebaine with Pd gives β-dihydrothebaine, m. 76°, [α]_{27D} -83.94° (0.2323 g. in 20 cc. EtOH); picrate, yellow,

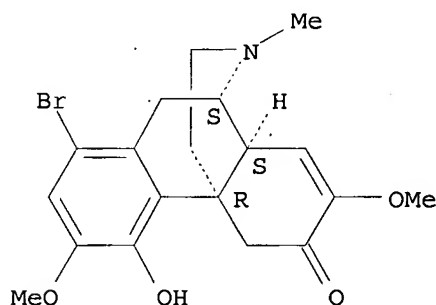
m. 245°; semicarbazone, m. 199-201° (decomposition). Reduction of dihydrohydroxycodine according to Clemmensen gives dihydrohydroxythebaine, m. 138-9°, $[\alpha]_{25D} -58.15^\circ$ (0.1135 g. in 20 cc. Me₂CO). 1 (5 g.) and 6.2 g. AgNO₃ in H₂O give, after 36 hrs., the nitrate, decomp. above 280° of dehydrosinomenine, m. 218-20°, $[\alpha]_{12D} 97.58^\circ$ (0.1222 g. in 30 cc. MeOH). Catalytic reduction (Pd) gives isodihydrosinomenine, C₁₉H₂₅NO₄, decomp. 271°, $[\alpha]_{24D} 171.16^\circ$ (0.1579 g. in 20 cc. EtOH); methiodide; oxime, m. 245-50° (decomposition). This compound also results by the action of AgNO₃ on II; a 2nd product, insol. in Me₂CO, is apparently 2C₁₉H₂₅NO₄, m. 270°, $[\alpha]_{13D} 113.8^\circ$ (0.0914 g. in 20 cc. MeOH). Thebaine and AgNO₃ give Ψ -thebaine, C₁₉H₂₁NO₂, decomp. 227°, $[\alpha]_{16D} -339.5^\circ$ (0.1352 g. in 20 cc. Me₃CO); semicarbazone, decomp. above 290°; dihydro derivative, m. 270° (decomposition), $[\alpha]_{26D} -71.77^\circ$ (0.1045 g. in 20 cc. Me₂CO).

IT 847941-31-5, Sinomenine, bromo-
(isomers)

RN 847941-31-5 CAPLUS

CN Morphinan-6-one, 1-bromo-7,8-didehydro-4-hydroxy-3,7-dimethoxy-17-methyl-,
(9 α ,13 α ,14 α)- (CA INDEX NAME)

Absolute stereochemistry.



L4 ANSWER 13 OF 13 CAPLUS COPYRIGHT 2008 ACS on STN

ACCESSION NUMBER: 1927:13499 CAPLUS

DOCUMENT NUMBER: 21:13499

ORIGINAL REFERENCE NO.: 21:1655h-i,1656a

TITLE: Sinomenine and dehydrosinomenine

AUTHOR(S): Goto, Kakuji

SOURCE: Proc. Imp. Acad. (Japan) (1926), 2, 7-9

DOCUMENT TYPE: Journal

LANGUAGE: Unavailable

AB cf. C. A. 18, 2710, J. Agr. Chemical Society Japan 1, 3, 50, 89(1925); Kondon. Ochiai and Nakajima. C. A. 18, 442. Sinomenine (I), C₁₉H₂₃NO₄. m. 162°, $[\alpha]_{D20} -73.92^\circ$, contains 2 MeO groups, 1 CO₂H and 1 HO; it shows the characteristic color reactions of phenols. Reduction gives hydrosinomenine, C₁₉H₂₅NO₄, m. 201°, $[\alpha]_{D20} 193.58^\circ$; methiodide, m. 268° (decomposition); oxime, m. 211°; semicarbazone, m. 209° I.HCl in AcOH gives 2 Br derivs., m. 153°, $[\alpha]_{D25} -2.62^\circ$, and m. 421°, $[\alpha]_{D25} 14.65^\circ$; only the lower melting form gives the phenolic reactions. Dehydrosinomenine, C₁₉H₂₁NO₄, m. 245°, $[\alpha]_{D25} -149.97^\circ$, occurs in nature with I but in much; smaller quantity; it is formed by oxidizing I with FeCl₃, AuCl₃, KMnO₄, etc.; HCl salt, m. above 285°; methiodide, m. 261°; oxime, m. 265° (decomposition); semicarbazone, m. above 285°. Boiled with 66% KOH for 2 hrs., I gives MeEtNH and sinomenol, C₁₀H₁₄O₄, m. 176°; it gives 2 di-Me derivs., m. 115° and 240°, 2 di-Bz derivs.,

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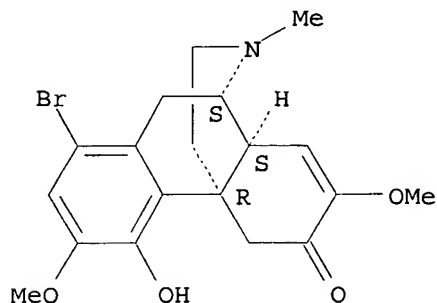
m. 206° and 260° and a di-Ac derivative, m. 149°. Distillation with Zn dust gives phenanthrene. Thus I belongs to the tetrahydroisoquinoline alkaloids of the phenanthrene group and sinomenol is a dihydroxydimethoxyphenanthrene with the HO groups in the a-positions.

IT 847941-31-5, Sinomenine, bromo-
(isomers)

RN 847941-31-5 CAPLUS

CN Morphinan-6-one, 1-bromo-7,8-didehydro-4-hydroxy-3,7-dimethoxy-17-methyl-,
(9 α ,13 α ,14 α)- (CA INDEX NAME)

Absolute stereochemistry.



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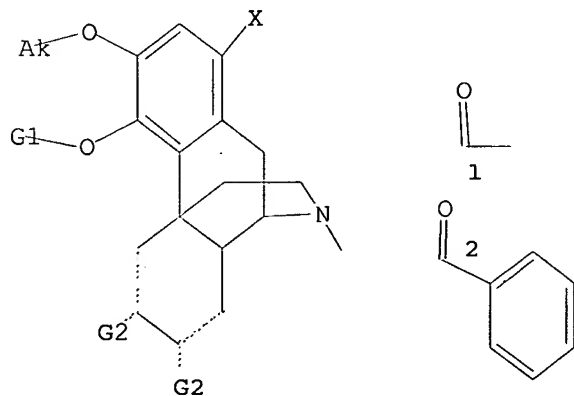
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Structure attributes must be viewed using STN Express query preparation.

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